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July 1981 DR 1192

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METEOROLOGICAL DATA REPORT

19315B MLRS

Missile Number V-13-001

Round Number V-162/AT2-1

6 July 1981

by

Program Support Coordinator Phone Number (505) 679-9568 AVN Number 349-9568

> DTIC AUG 1 2 1981

THE STADING

ATMOSPHERIC SCIENCES LABORATORY WHITE SANDS MISSILE RANGE, NEW MEXICO

ECOM

UNITED STATES ARMY ELECTRONICS COMMAND

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| 20. ABSTRACT (Cantiluse on reverse side H recoverary and I | | |
| Meteorological data gathered for the | launching of the | he 19315R MIRS Missile No |
| V-13-001, Round No. V-162/AT2-1 prese | nted in tabula | r form. |
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CONTENTS

| | PAGE |
|--|------|
| INTRODUCTION | 1 |
| DISCUSSION | 1 |
| LAUNCH AREA DIAGRAM | 2 |
| GENERAL AREA MAP | 3 |
| TABLES: | |
| 1. Surface Observations taken at 1300 MDT at LC-33 | 4 |
| 2. T-Time Pilot-Balloon Measured Wind Data | 5 |
| 3. Aiming Computer Met Messages | 6 |
| 4. SMR Significant Level Data at 1130 MDT | 7 |
| 5. SMR Upper Air Data at 1130 MDT | გ |
| 6. SMR Mandatory Levels at 1130 MDT | 13 |
| 7. WSD Significant Level Data at 1215 MDT | 14 |
| Q USD Hamon Aire Date at 2025 Mary | 15 |
| 9. WSD Mandatory Levels at 1215 MDT | . • |

INTRODUCTION

19315B MLRS, Missile Number V-13-001, Round Number V-162/AT2-1, was launched from LC-33, White Sands Missile Range (WSMR), New Mexico, at 1300 MDT, 6 July 1981. The scheduled launch time was 1300 MDT.

DISCUSSION

Meteorological data were recorded and reduced by the White Sands Meteorological Team, Atmospheric Sciences Laboratory (ASL), White Sands Missile Range, New Mexico. The data were obtained in the following methods:

1. Observations:

- a. Surface
- (]) Standard surface observations to include pressure, temperature (C), relative humidity, dew point (C), density (gm/m^3) , wind direction and speed, and cloud cover were made at the LC-33 Met Site T-0 minutes.
- (2) Anemometer data were provided from existing pole-mounted and tower-mounted anemometers at LC-33. Monitor of wind speed and direction from one anemometer was also provided in the launch control room.
 - b. Upper Air:
- (1) Low level wind data were obtained from RAPTS T-9 pibal observations at:

SITE AND ALTITUDE

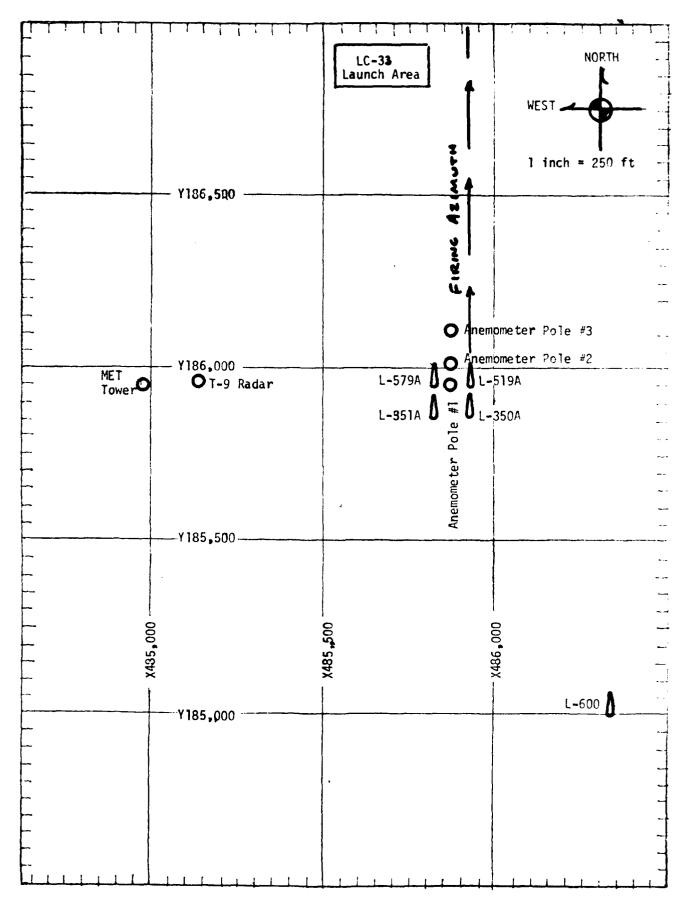
LC-33 2 KM NICK 2 KM

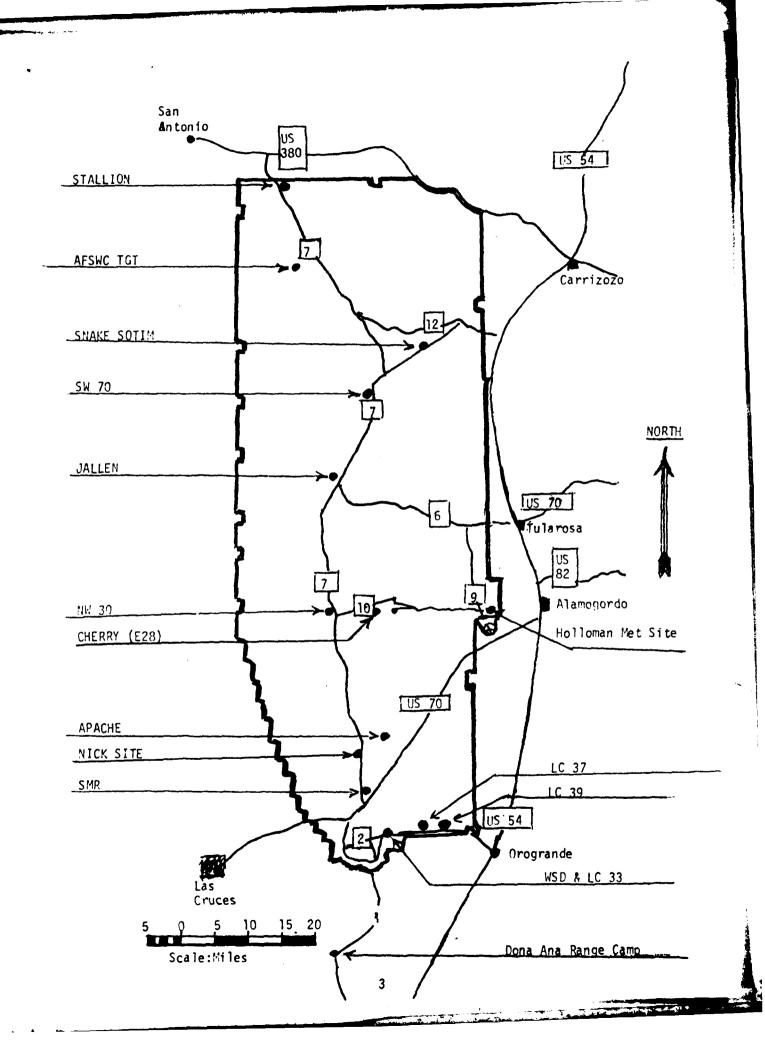
(2) Air structure data (rawinsonde) were collected at the following Met Sites:

SITE AND TIME

SMR 1130 MDT WSD 1215 MDT

| | Г |
|--------------------|---|
| Accession For | |
| NTIS GRA&I | ł |
| DTIC TAB | 1 |
| Unannounced | 1 |
| Justification | 1 |
| | 1 |
| By | 1 |
| Distribution/ | 1 |
| Availability Codes | 4 |
| Annil and/or | } |
| Dist intent | 1 |
| | 1 |
| X | |
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PROJECT SURFACE OBSERVATION

| 1 10 4 4 | | | | | | | 1 | | | | |
|---------------|-------------------|-----------------------------|-------------|--------|-----------|---------------------------|------------------|----------------------|----------------------|---|-----------------|
| Walt 1 | 1 | | | | | | | STATION LC-33 | -33 | | |
| DATE 06 | DATE 06 July 1981 | 198 | <u></u> | | | | | x= 484,982.6 | , , , | X= 484,982.64 Y= 185,957,73 H=3983.0 | 3983.0 |
| TIME M D T | PRESSURE mbs | TEMPERATURE DEW POINT OF OC | ATURE OC | DEW PC | INT OC | RELATIVE HUMIDITY % | DENSITY gm/m3 | DIRECTION degs Tn | WIND SPEED Kts | DIRECTION SPEED CHARACTER VISIBIL- degs In kts kts ITY | VISIBIL- ITY |
| 1300 | 878.9 | | 32.9 | | 9.6 | 9.6 24 · | 994 | A 2 | \ \ - | | 9 |
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| | | DEMADYS | NE INCh | | | | | |
| | | | HGT | | | | | |
| | CI OHOS | d I AYF | AMT TYPE HGT | | | | | |
| | | 35 | AMT | | | | | _ |
| | | ~ | HGT | | 13000 | | | |
| | CLOUDS | d LAYE | TYPE | | J Y | | | - |
| | | 2nc | AMT | , | 1 | | | _ |
| | | <u>د</u> | HGT | o o | 7007 | - | | • |
| | | t LAYE! | AMT TYPE HGT | | 3 | | | _ |
| | | JS | AMT | < | , | | | _ |
| | | OBSTRUCTIONS | O VISIBILITY | | | | | _ |

TABLE 2

T-TIME PILOT-BALLOON MEASURED WIND DATA DATE 06 July 1981

SITE: LC-33

TIME: 1300 MDT

WSTM COORDINATES:

X = 485,135.76

Y = 185,919.24

H= 3,988.57

SITE: NICK

TIME: 1300 MDT

WSTM COORDINATES:

X = 470,734.56

Y = 255,775.64

H=4,126.57

| LAYER MIDPOINT METERS AGL | DIRECTION DEGREES | SPEED KNOTS | LAYER MIDPOINT | DIRECTION | SPEED |
|------------------------------|-------------------|----------------|----------------|-------------|----------|
| | | | METERS AGL | DEGREES | KNOTS |
| SURFACE | C A | L M | SURFACE | 110 | 01 |
| 150 | 212 | 03 | 150 | 156 | 03 |
| 210 | 220 | 03 | 210 | | |
| 270 | 178 | 03 | | 165 | 03 |
| | | | 270 | 184 | 02 |
| 330 | 173 | 03 | 330 | 209 | 02 |
| 390 | 200 | 06 | 390 | | |
| 500 | 156 | 04 | 500 | 135 055 | 01 05 |
| 650 | 039 | 04 | 650 | 047 | 07 |
| 800 | 004 | 03 | 800 | 3 52 | 02 |
| 950 | 918 | 06 | 950 | 310 | 03 |
| 1150 | 029 | 05 | 1150 | 204 | |
| 1350 | 341 | 07 | | 294 | 03 |
| | | | 1350 | 315 | 03 |
| 1550 | 360 | 05 | 1550 | 325 | 03 |
| 1750 | 002 | 04 | 1750 | | |
| 2000 | | U 4 | | 333 | 03 |
| 2000 | 349 | 04 | 2000 | 333 | 03 |
| | | | | | |

Data obtained from T-9 radar Tracked Pilot-Balloon Observation.

Data obtained from Single Theodolite Tracked Pilot-Balloon Observation.

AIMING COMPUTER MET MESSAGES 06 July 1981

| SMR 1130 MDT METCM1325064 061750122879 00160002 30730879 01475001 30530870 02118002 30270845 03427001 29860808 04484004 29360763 05556007 28960719 06056008 28560678 07054909 28120638 08019013 27740601 09059023 27370565 10076026 27050530 | METCM1324 061830122 00311003 01305004 02320002 03365001 04264001 05001003 06075007 07034009 08020014 | 30830879 30620869 30340845 29910808 29370763 28980720 28570678 28120639 27689601 27243565 |
|--|--|--|
| | 09057022 10075025 11051018 12066016 | 27240565 26930530 26730499 26190452 |

| Ŋ | S JULY 81 T IND HRS MDT ASCENSION NO. 75 |
|-------|--|
| S | 6 JULY 81 130 HRS MIT |
| | STATION ALTITUDE 3997.30 FEET MSL |
| SIGHL | |

The second second

FICANT LEVEL DATA
1870050075
S M R

GEODETIC COORDINATES 32.48034 LAT DEG 106.42307 LON DEG

| PRESSURE | _ | TEMPE | TEMPERATURE | REL.HUM. |
|-----------|----------|---------|-------------|----------|
| | AL TI | AIR | DEMPOINT | PERCENT |
| MILLIBARS | MSL FEET | DEGNEES | CENTIGRADE | |
| <u>.</u> | 3997.3 | 32.8 | 10.8 | |
| * | 8.4604 | 31.3 | 11.1 | 29.0 |
| •• | 4991.3 | 28.5 | 2.6 | 30.0 |
| .2 | 8567.3 | 17.5 | 3,0 | 45.0 |
| • | 10499.6 | 13.5 | 3.5 | 50.0 |
| * | 13705.9 | 5.1 | -2.2 | 59.0 |
| €. | 14628.9 | | ۲, | 84.0 |
| ÷ | _ | ٠, | 14.1 | 73.0 |
| 0. | 16419.1 | -1.1 | 9.4. | 77.0 |
| 7.4 | | -2.5 | -12.5 | 46.0 |
| 537.0 | 17609.3 | -2.7 | -20.4 | 24.0 |
| 0:0 | | -5.7 | -22.1 | 26.0 |
| 0: | | • | -33.7 | 25.0 |
| 363.0 | 27438.3 | -22.6 | -37.5 | 24.0 |
| 3.0 | 29264.4 | | -40.5 | 24.0 |
| •• | 31958.7 | -32.4 | -40.0 | 24.0 |
| 267.0 | 34635.8 | • | -50.6 | 24.0 |
| | | | | |

-22.1 -33.7 -37.5 -40.5 -46.0

19460.1 25574.8 29264.4 39264.4 34635.8 34635.8 39173.4 41030.5 47058.0 49421.2 552876.7 552876.7 58567.2 58567.2 68175.8 81176.7 82940.4

2500.0 23500.0 23500.0 23500.0 22500.0 22500.0 22500.0 23000 23000 25000 25000 25000 25000

7

| #PERATURE REL.HUM, DENSITY SPEED OF MIND DATA DEWPOINT PERCENT GMCVGUIC SOUND FOREESTINN KNO LOCATION SPEED OF LOCATION | STATION ALTITUDE 3997 6 JULY B1 | 197.30 FEET MSL 130 HRS MENT | IT MSL M.BMT | | 1870060075 S M R | 75 | | GF 00E TIC 32.48 | COOKDIN/ |
|--|------------------------------------|---------------------------------|-----------------------|---|---------------------|-------------|--------------------------|---------------------|-------------------|
| NT PERCENT GM/CUBIC SOUND DIMECTION SF ADE METER KNOFS LEGREES(TN) KR ADE METER KNOFS LEGREES(TN) KR B 26.1 995.7 LB3.3 90.0 B 26.1 995.4 LB3.3 90.0 B 26.4 67.4 67.6 10.6 B 26.4 67.4 67.6 224.0 B 40.5 65.9 241.2 265.6 B 40.5 65.9 264.4 67.6 B 40.5 65.9 264.8 264.8 B 40.5 65.9 264.8 264.8 B 40.5 65.9 <t< th=""><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th>106.</th><th>106.42307 LON DEG</th></t<> | | | | | | | | 106. | 106.42307 LON DEG |
| PERCENT GM/CUBIC SOUND DIRECTION SF 26.0 995.6 683.3 90.0 25.0 90.0 25.0 90.0 25.0 90.0 25.0 90.0 25.0 90.0 25.0 90.0 25.0 90.0 25.0 90.0 25.0 90.0 25.0 90.0 25.0 90.0 25.0 90.0 | TEMP | ~ | EHATURE | REL.HUM. | | SPEED OF | AINU OA | TA | INDEX |
| 10.8 26.0 995.6 683.3 90.0 10.3 29.5 995.7 683.3 90.0 9.2 30.0 976.3 676.4 106.9 9.2 30.0 976.3 678.4 106.9 8.5 34.2 964.4 676.6 106.9 9.0 36.3 941.0 673.1 224.0 10.0 36.3 941.0 673.1 224.0 10.0 36.3 941.0 673.1 224.0 10.0 36.4 959.6 671.3 224.0 10.0 40.5 974.4 665.9 207.0 10.0 40.5 665.9 207.0 207.0 10.0 44.7 665.9 207.0 207.0 10.0 467.1 664.0 207.0 207.0 10.0 467.1 664.0 206.0 207.0 10.0 467.1 667.0 207.0 207.0 10.0 467.1 6 | AIR MILLIUARS DEGREES C | ن | DEWPOINT Entigrade | PERCENT | Ü | SOUND | DIRECTION DEGREES(TN) | SPEEU KNOTS | OF REFRACTION |
| 10.8 26.1 995.7 083.3 90.0 10.3 29.5 987.7 080.2 100.6 8.5 34.2 964.4 106.9 106.9 8.6 34.2 962.6 674.9 224.0 8.0 36.3 964.4 106.9 224.0 8.0 36.3 964.4 675.1 224.0 8.0 38.4 929.6 671.3 224.0 8.0 42.6 907.4 665.9 224.0 8.0 42.6 907.4 665.9 224.0 9.0 44.4 665.9 270.0 224.0 9.0 44.4 665.9 270.0 224.0 9.0 44.4 665.9 270.0 224.0 9.0 460.1 665.9 270.0 224.0 9.0 460.1 665.9 270.0 224.0 9.0 460.1 660.0 260.0 270.0 9.0 460.1 660.0 | 32.8 | | 10.8 | 26.0 | | 683.3 | 0.06 | 1.9 | 1.000274 |
| 10.3 29.5 987.7 080.2 95.6 9.2 30.0 976.3 078.4 100.9 8.9 34.2 964.4 674.9 224.0 8.0 36.3 941.0 673.1 241.2 7.5 38.4 929.6 671.3 224.0 6.9 40.5 941.0 673.1 224.0 6.9 40.5 941.0 673.1 224.0 6.9 40.5 97.4 665.9 224.0 6.9 40.5 965.9 264.4 265.9 6.0 40.7 666.9 200.0 200.0 7.0 40.1 664.6 294.6 200.0 8.0 40.1 667.1 660.0 200.0 8.0 40.1 660.0 20.0 20.0 10.0 70.2 660.0 20.0 20.0 10.0 70.2 60.0 20.0 20.0 10.0 70.2 60.0 20.0 20.0 10.0 70.2 70.0 70.0 20.0 <td>32.8</td> <td></td> <td>10.8</td> <td>26.1</td> <td>995.7</td> <td>_</td> <td>0.06</td> <td>1.9</td> <td>1.000274</td> | 32.8 | | 10.8 | 26.1 | 995.7 | _ | 0.06 | 1.9 | 1.000274 |
| 9.2 30.0 976.3 b78.4 110.6 8.9 32.1 952.4 b76.6 b74.9 576.6 b74.9 524.0 58.9 34.2 952.4 b76.6 b74.9 524.0 5.0 36.3 b74.9 b76.6 b74.9 524.0 5.0 40.5 916.4 b69.5 5.0 40.5 916.4 b69.5 5.0 44.7 89.5 665.9 584.4 47.4 871.4 661.0 359.4 570.0 48.7 550.0 871.2 665.9 584.4 307.0 871.4 b61.0 359.4 570.5 570.0 | 30.0 | | 10.3 | 29.5 | 987.7 | _ | 95.8 | 1.3 | • |
| 8.9 32.1 954.4 576.6 156.9 8.5.1 524.0 8.5.3 34.2 952.6 674.9 224.0 241.2 7.5 38.4 929.6 671.3 226.7 6.2 40.5 916.4 667.7 279.5 66.2 42.6 974.4 667.7 279.5 66.2 42.6 974.4 667.7 279.5 66.2 44.4 47.4 884.1 664.6 52.9 284.4 47.4 871.6 663.4 330.1 20.6 55.9 847.1 661.0 359.4 20.6 14.1 884.1 661.0 359.4 20.6 14.1 885.7 659.4 20.6 27.3 27.3 27.3 27.3 27.3 27.3 27.3 27.3 | 28.5 | | 9.5 | 30.0 | _ | 678.4 | 110.8 | 8. | 1.000266 |
| 8.5 34.2 992.6 674.9 224.0 8.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1 | 26.9 | | 8.9 | 32.1 | _ | 676.6 | 166.9 | ⇒ 1 | |
| 7.5 38.4 929.6 671.3 256.7 6.9 40.5 907.4 667.7 279.5 6.9 40.5 907.4 667.7 279.5 6.9 40.5 907.4 667.7 279.5 6.0 40.5 907.4 667.7 279.5 7.0 40.7 87.1 667.9 284.4 8.0 40.7 87.0 20.6 20.6 8.1 87.0 87.1 667.8 20.6 9.2 80.0 87.0 20.6 20.6 9.2 80.0 87.0 20.6 20.6 9.2 80.0 87.0 20.6 20.6 10.0 83.7 20.0 20.6 20.6 11.0 83.7 20.0 20.6 20.6 11.0 83.7 20.0 20.0 20.0 12.0 80.0 20.0 20.0 20.0 12.0 80.0 20.0 20.0 20.0 10.2 80.0 20.0 20.0 20.0 | 1.02 0.40 | | n 0 | 34.2 | 952.6 | 6.479 | 224.0 | • • | |
| 6.9 40.5 6.9 40.5 6.9 40.5 6.9 40.5 6.2 42.6 6.8 44.7 6.8 4.1 6.8 4.1 6.8 4.1 6.8 6.2 6.2 6.2 6.3 | 22.3 | | 7.5 | 4.86 | 924.6 | 671.3 | 2.162 | 7 - | 1.000252 |
| 6.2 42.6 907.4 667.7 279.5 5.0 46.1 4.7 4 884.1 664.6 294.8 44.7 5.0 46.1 884.1 664.6 294.8 330.1 3.9 48.7 859.3 665.9 284.4 5.0 148.7 859.3 665.9 284.4 20.6 20.6 20.6 20.6 20.6 20.6 20.6 20.6 | 20.8 | | 6.9 | 40.5 | 910.4 | 5-699 | 267.8 | 1.7 | |
| 5.5 44.7 890.5 665.9 284.4 5.0 46.1 884.1 664.6 294.8 3.9 48.7 859.3 662.2 330.1 3.3 50.0 847.1 661.0 359.6 2.5 51.4 824.5 652.4 24.3 -1.6 52.8 824.5 652.4 24.3 -1.1 55.6 802.5 054.7 27.9 -1.2 57.0 791.7 653.1 27.9 -1.3 67.0 791.7 653.1 27.9 -1.4 80.5 770.3 050.0 27.3 -1.5 67.0 770.3 050.0 27.3 -1.5 67.0 770.3 050.0 27.3 -1.6 80.5 770.3 050.0 27.3 -1.7 80.5 770.3 050.0 27.3 -1.8 60.5 770.3 050.0 27.3 -1.9 81.1 73.8 643.3 30.3 -1.0 80.5 770.3 050.0 27.3 -1.0 80.5 770.3 050.0 27.3 -1.0 80.5 770.3 050.0 27.3 -1.0 80.5 770.3 050.0 27.3 -1.0 80.5 770.3 050.0 27.3 -1.0 80.5 770.3 050.0 27.3 -1.0 80.5 770.3 050.0 27.3 -1.0 80.5 770.3 050.0 27.3 -1.0 80.5 770.3 050.0 27.3 -1.0 80.5 770.3 050.0 27.3 -1.0 80.5 770.3 050.0 27.3 -1.0 80.5 770.3 050.0 27.3 -1.0 80.5 770.3 050.0 27.3 -1.0 80.5 770.3 050.0 27.3 -1.0 80.5 770.3 050.0 27.3 -1.0 80.5 770.3 050.0 27.3 -1.0 80.5 770.3 050.0 27.3 -1.0 80.5 770.3 050.0 27.3 -1.0 80.5 770.3 070.3 -1.0 80. | 19.2 | | 6.2 | 45.6 | 907.4 | 66.1.7 | 279.5 | 3.0 | |
| 5.0 46.1 884.1 664.6 294.8 4.4 47.4 871.6 663.4 307.0 359.4 25.5 51.4 859.3 662.2 350.1 359.6 294.8 55.8 84.5 659.4 24.3 26.5 51.4 835.7 659.4 24.3 26.8 84.5 659.4 24.3 26.8 85.0 84.5 659.4 26.8 24.5 659.4 26.8 27.9 27.9 27.0 20.8 27.0 770.3 650.0 27.0 27.0 770.3 650.0 27.0 770.3 650.0 27.0 770.3 650.0 27.0 770.3 650.0 27.0 770.3 650.0 27.0 770.3 650.0 27.0 770.3 650.0 27.0 770.3 650.0 27.0 770.3 650.0 27.0 770.3 670.0 27.0 770.3 670.0 27.0 670.0 27.0 670.0 27.0 670.0 27.0 670.0 67 | 17.7 | | 5.5 | 44.7 | 890.5 | 6.699 | 584.4 | 5.5 | 1.000240 |
| 4.4 47.4 871.6 663.4 307.0 3.9 48.7 859.3 662.2 330.1 3.3 50.0 847.1 661.0 359.6 2.5 51.4 835.7 659.4 24.3 1.6 52.8 862.7 869.4 24.3 1.6 52.8 862.7 653.1 1.0 57.0 791.7 653.1 27.9 1.1 80.5 770.3 650.0 27.9 1.2 80.5 772.7 640.7 27.9 1.3 67.0 776.3 650.0 27.9 1.4 77.2 775.4 645.1 30.3 10.2 54.1 705.2 642.0 39.8 10.2 55.0 660.6 638.3 360.3 22.2 26.0 667.0 637.3 38.0 23.2 25.0 660.0 637.3 38.0 24.4 6682.4 640.2 441.4 25.5 660.6 638.3 642.0 26.3 75.6 660.1 652.4 640.5 27.7 25.7 640.1 659.9 40.8 28.2 25.0 660.0 637.3 38.0 28.2 25.0 660.0 638.3 360.0 28.3 25.7 670.4 655.1 520.0 28.4 25.5 660.0 638.3 64.9 28.4 25.5 660.0 638.3 67.0 | 16•6 | | 2•0 | 46.1 | 884.1 | | 8.46S | 6.9 | 1.000236 |
| 3.9 48.7 859.3 062.2 330.1 3.3 50.0 847.1 661.0 359.6 2.5 51.4 835.7 659.4 20.6 3.6 62.8 824.5 657.8 26.8 4.5 52.8 802.5 054.7 27.3 4.0 57.0 70.3 050.0 27.3 4.0 77.2 77.2 77.2 040.2 22.7 4.0 73.2 77.2 77.2 040.2 22.7 4.0 73.2 77.2 77.2 040.2 22.7 4.0 73.2 77.2 77.2 640.1 42.1 20.3 10.2 59.9 660.6 030.3 39.0 640.0 52.7 22.2 25.0 650.0 057.3 30.0 34.0 52.7 22.2 25.0 650.0 057.3 30.0 34.0 52.7 22.3 25.7 640.0 057.3 30.0 30.0 52.7 22.4 77.5 75.5 650.0 057.3 30.0 50.0 52.7 22.5 25.0 650.0 057.3 30.0 50.0 52.0 52.0 52.0 52.0 52.0 52.0 5 | 15•6 | | †• † | 47.4 | 871.6 | | 307.0 | 7.2 | 1.000232 |
| 3.3 50.0 847.1 661.0 359.6 2.5 51.4 835.7 659.4 20.6 52.8 824.5 657.8 26.8 26.8 55.6 50.5 55.6 802.5 656.3 20.5 27.3 27.0 70.2 650.1 20.5 27.3 27.0 70.2 650.1 20.4 20.6 20.6 20.6 20.6 20.6 20.6 20.6 20.6 | 14.5 | | 3.9 | 48.7 | 854.3 | | 330 • 1 | 6.2 | 1.000228 |
| 2.5 51.4 635.7 659.4 20.0 65.8 52.8 684.5 657.8 26.8 62.5 655.6 55.6 65.3 26.6 65.9 55.1 55.6 55.6 55.0 70.2 650.1 55.0 57.0 70.2 650.1 55.0 57.0 70.3 650.0 27.3 67.0 70.3 650.0 27.3 67.0 70.3 650.0 27.3 67.0 70.3 650.0 27.3 67.0 70.3 650.0 27.3 67.0 70.2 67.0 70.2 67.0 70.2 67.0 67.0 67.0 67.0 67.0 67.0 67.0 67.0 | 13.5 | | ۳. ۳. | 50.0 | 847.1 | | 359.8 | 9.5 | 1.000224 |
| 1.0 55.8 615.4 556.8 24.5 55.6 6.8 25.6 6.8 25.6 6.8 25.6 6.8 25.6 6.8 25.6 6.8 25.6 6.8 25.6 6.8 25.6 6.8 25.6 6.8 25.0 770.3 0.50.0 27.3 27.9 27.0 27.0 27.0 27.0 27.0 27.0 27.0 27.0 | 12.2 | | ر د ، | 51.4 | 835.7 | | 9.03 70.5 | 7.5 | 1.000220 |
| -1. 55.6 | 10.9 | | 9 | 22.0 | 874.5 | | 9 = 40 4 = 40 | V 0 | 1.000216 |
| -1.0 57.0 791.7 653.1 27.9 -1.0 58.4 77.2 791.7 653.1 27.9 -1.3 67.0 770.3 650.0 27.5 -1.3 67.0 770.3 650.0 27.5 -1.3 67.0 770.3 650.0 27.5 -1.3 67.0 770.3 650.0 27.5 -1.0 80.5 77.2 750.4 648.6 10.4 12.8 77.2 750.7 640.7 640.7 642.0 39.8 17.8 29.9 682.4 640.2 642.0 39.8 17.8 29.9 682.4 640.2 641.1 42.1 22.2 25.0 650.0 651.1 659.2 25.0 650.0 651.1 659.2 25.0 650.0 651.1 659.2 25.0 650.0 651.1 659.2 25.0 650.0 651.1 659.5 25.0 650.0 651.1 659.5 25.0 650.0 651.1 659.5 25.0 650.0 651.1 659.5 25.0 650.0 651.1 659.5 25.0 650.0 651.1 659.5 25.0 650.0 65 | 8 • • • | | - | 55.6 | 802.5 | | 27.3 | 8 | |
| -1.9 58.4 781.1 651.6 29.5 -1.3 67.0 770.3 650.0 27.5 -1.1 80.5 759.4 648.6 10.4 -2.4 77.2 759.4 648.6 10.4 -2.4 77.2 759.4 648.6 10.4 -2.4 77.2 750.4 648.1 12.8 -2.4 77.2 750.4 640.3 52.7 -2.4 77.2 750.4 640.3 50.0 -2.3 73.8 640.4 640.3 50.0 -2.5 640.6 63.4 640.3 50.0 -2.6 671.4 659.2 60.3 50.0 -2.7 25.0 660.6 630.3 50.0 -2.7 660.6 630.3 50.0 60.3 -2.7 660.6 630.3 50.0 60.3 -2.5 660.6 630.3 50.0 60.3 -2.5 660.6 630.3 | 6•9 | | -1.0 | 57.0 | 791.7 | _ | 27.9 | 8.8 | |
| -1.3 67.0 770.3 050.0 27.5 -1.3 67.0 759.4 048.6 10.4 -1.9 81.1 748.1 047.4 12.8 12.8 -2.4 77.2 730.7 040.2 27.5 22.7 735.7 040.2 27.5 22.7 725.4 048.5 10.4 12.8 10.2 54.1 705.2 042.0 39.0 17.8 29.9 682.4 040.2 39.0 17.8 29.9 682.4 040.2 25.0 660.6 638.3 42.1 22.2 25.0 660.6 638.3 30.0 34.0 25.2 25.0 660.0 653.2 25.0 660.0 653.2 25.0 660.0 653.2 25.0 25.0 650.0 653.2 25.0 25.0 650.0 653.2 25.0 25.0 650.0 653.2 25.0 25.0 650.0 653.2 25.0 25.0 650.0 653.2 25.0 25.0 25.0 25.0 25.0 25.0 25.0 25 | 5•6 | | -1.9 | 58.4 | 781.1 | | 568 | 0.6 | |
| | t•3 | | -1.3 | 67.0 | 770.3 | 0.039 | 27.3 | | 1.000199 |
| 9 81.1 748.1 547.4 12.8 12.8 1.9 77.2 735.7 540.2 52.7 73.8 73.8 735.4 645.1 50.0 50.0 17.8 645.1 50.0 50.0 17.8 645.1 50.0 50.0 17.8 645.1 50.0 50.0 17.8 59.9 682.4 640.2 59.9 662.4 640.2 55.0 660.6 638.3 64.8 671.4 653.2 55.0 660.6 638.3 54.8 54.8 55.5 66.0 658.3 54.8 54.8 55.5 55.6 658.4 655.4 655.4 55.6 55.8 650.4 650.4 650.4 55.1 55.6 56.3 57.6 57.8 57.8 57.8 57.8 57.8 57.8 57.8 57.8 | 2•9 | | | 80.5 | 759.4 | - | 10.4 | 10.4 | 1.000199 |
| 25.3 73.8 725.4 645.1 50.0 50.0 50.0 50.0 50.0 50.0 50.0 5 | 0.5 | | 5 - | 81.1 | 73. 7 | | 12.8 | | 1.000195 |
| -5.3 73.8 715.8 643.3 30.3 10.2 54.1 705.2 642.0 39.8 17.8 29.9 693.7 641.1 42.3 20.8 24.4 662.4 640.2 42.1 21.2 25.0 671.4 659.2 40.3 21.7 25.5 660.6 638.3 40.3 22.2 26.0 650.4 650.4 60.3 23.2 25.7 670.4 650.4 64.4 25.5 670.4 650.4 64.4 64.4 25.5 670.4 650.4 64.4 64.4 25.5 670.4 65.1 64.4 64.4 25.5 67.5 67.5 64.4 64.4 25.4 67.5 67.5 64.4 64.4 25.4 67.5 67.7 67.7 25.4 67.4 67.4 67.4 25.4 67.5 67.7 67.7 25.4 | • 2 | | 0.4- | 73.2 | 725.4 | | 30.0 | 20.9 | 1.000185 |
| 10.2 54.1 705.2 642.0 39.8 17.8 29.9 693.7 641.1 42.3 682.4 640.2 42.1 21.2 25.0 671.4 659.2 40.5 40.5 21.2 25.0 671.4 659.2 40.5 40.5 21.7 25.5 66.0 658.3 50.0 657.3 50.0 52.2 25.0 660.0 652.4 50.0 55.2 25.0 660.0 650.0 650.4 550.4 550.4 650.4 650.4 650.4 650.4 650.4 650.7 50.0 50.0 50.0 50.0 50.0 50.0 50.0 | | | -5.3 | 73.8 | 715.8 | | 30.3 | 24.1 | 1.000181 |
| 17.8 29.9 693.7 641.1 42.3 20.8 24.4 662.4 640.2 42.1 21.2 25.0 671.4 659.2 40.4 21.7 25.5 660.6 638.3 40.4 22.2 26.0 670.0 637.3 59.0 23.2 25.7 670.0 634.3 51.0 25.3 25.7 670.4 65.0 64.4 26.3 25.5 601.7 52.0 29.4 25.7 57.5 57.5 29.4 25.7 50.5 50.5 | | | -10.2 | 54.1 | 705.2 | | 34.6 | 25.7 | 1.000172 |
| 20.8 24.4 682.4 640.2 42.1 21.2 25.0 671.4 059.2 41.4 21.7 25.5 660.6 638.3 40.5 22.2 25.0 650.0 657.3 38.0 23.2 25.0 640.0 650.4 54.0 24.2 25.1 670.1 650.4 51.0 25.3 25.7 670.4 650.1 634.9 27.1 25.5 610.4 651.7 52.0 27.1 25.5 610.4 651.7 52.0 27.1 25.5 601.5 670.3 54.9 27.1 25.5 670.5 670.5 670.5 | | | -17.8 | 59.9 | 693.7 | | 42.3 | 26.5 | 1.000162 |
| 21.2 25.0 671.4 059.2 41.4 21.7 25.5 660.6 636.3 40.5 22.2 26.0 650.0 657.3 58.6 23.2 25.9 640.0 650.9 51.0 25.3 25.7 670.4 650.1 24.2 26.3 25.7 670.4 650.1 24.9 27.1 25.5 601.5 670.5 54.9 27.1 25.5 601.5 670.5 57.5 | | • | -20.8 | J | 682.4 | | 42.1 | 54.9 | 1.000158 |
| 22.2 25.5 660.6 638.3 40.5 22.2 26.0 658.0 657.3 58.0 23.2 25.0 660.0 657.3 58.0 24.2 25.3 65.1 650.4 65.1 25.3 25.7 620.4 65.1 24.0 26.3 25.7 670.4 65.1 24.0 27.0 25.5 601.5 670.5 54.0 27.0 25.5 601.5 670.5 54.0 | | , | 21.2 | 25.0 | 671.4 | | त • र त | 22.9 | 1.000155 |
| 22.2 26.0 650.0 637.3 38.0 23.2 25.9 640.0 650.9 34.0 34.0 34.0 34.0 34.0 34.0 34.0 34.0 | | • | -21.7 | 25.5 | 9.099 | | ₹0•₹ | 20.5 | 1.000153 |
| 23.2 25.9 640.0 0.55.9 54.8 1 24.2 25.8 0.50.1 0.54.5 51.0 1 25.3 25.7 6.0.4 0.55.1 649.9 1 26.3 25.6 0.01.7 52.0 1 27.5 25.5 0.01.5 0.04.9 1 28.4 25.5 5.0 0.05.4 57.5 1 | | • | -22.2 | 9 | 0.050 | | 38•11 | 17.7 | 1.000150 |
| 24.2 25.8 620.1 634.5 51.6 14 25.5 25.7 620.4 655.1 79.2 14 26.3 75.6 610.9 631.7 57.6 14 27.5 25.5 601.5 670.5 24.9 15 28.4 25.5 992.3 670.4 77.5 | | , | -23.2 | Ω. | 640.0 | | Е#5 | 15.4 | 1.000148 |
| 25.5 25.7 620.4 65.1 74.4 14 26.3 75.6 610.4 531.7 57.6 14 27.5 25.5 601.5 670.5 54.9 15 28.4 25.5 99.5 600.4 57.5 | -8.1 | | -24.5 | ட | 0.50.1 | | 11.15 | 14.2 | 1.000145 |
| 26.3 25.6 610.9 51.7 52.6 14 27.5 25.5 601.5 570.5 54.9 15 28.4 25.5 592.3 55.4 57.5 15 29.4 25.9 58.5 57.5 15 | -9.5 | | -25.3 | 25.7 | 4.029 | | 7.00 | 14.1 | 1.000142 |
| 27 | -10.4 | | -26.3 | 25.6 | 610.9 | | 32.6 | • | 1.000140 |
| 28+4 - 25+5 - 572+3 - 570+4 - 57+5 - 15+ 29+4 - 25+4 - 583+3 - 57+5 - 50+5 - 16+ | -11.5 | | | ر در در در در در در در در در در در در در | 001.1 | | か。 (大) | 15.5 | 1.000138 |
| 1 0000000000000000000000000000000000000 | -15.1 | | 128.4 | . ° . ° . ° . ° . ° . ° . ° . ° . ° . ° | 5.50 | | | | 1.000135 |
| | -13.8 | | # 6.2 L | # . 0.2 | 995.5 | (+ / . ' . | n. • | T • · 1 | 1.000155 |

| RDINA LAT | 106.42307 LON DEG | INUEX | 5 | REFRACTION | 1.000131 | 1.000128 | 1.000126 | 1.000124 | 1.000122 | 1.000120 | 1.000118 | .00011 | 1.000114 | 1.000112 | 1.000110 | 1.000108 | 1.000106 | 1.000104 | 1.000102 | 1.000101 | 1.000099 | 1.000097 | 1 • 000095 | | 1.000092 | | | | C90000. | C#0000 - 1 | 1.000081 | 1.000079 | 1.000078 | 1.000076 | 1.000075 | 1.000074 | 1.000072 | 1.00001 | 1.000070 | 1.000068 | 1.000067 | 1.000066 | F000001 |
|-------------------------------------|-------------------|-------------|-----------|--------------|----------|----------|----------|----------|----------|----------|----------|--------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|------------|---------|----------|---------|----------|--------------|---------|------------|----------|----------|----------|----------|----------|----------|-----------------|---------|----------|-----------|----------|------------|-------------|
| Gr ODE T | 106. | TA | SuEEU | KNOTS | • | 17.4 | 18.3 | 20.4 | 23.2 | 28.3 | 33.9 | 38.4 | 42.9 | 45.8 | 48.8 | 20.6 | 52.2 | 52.5 | 51.7 | 50.7 | 49.1 | 47.3 | 6.44 | 45.4 | 41.5 | 40.7 | 1 | 9.95 9.05 | 4 d | 20.04 | 46.7 | 46.5 | 46.2 | 46.2 | 46.2 | 0.84 | 43.1 | • | 41.0 | 3.03 7 | # · ^ · | 38.5 | ٠ |
| | | "IND DATA | DIRECTION | DEGREES (TN) | 43.8 | 45.7 | 45.7 | 43.9 | 41.8 | 37.7 | 34.6 | 52.1 | 30.5 | 59.4 | 28∙8 | 28.8 | 28.9 | 79.0 | 29.5 | 29.5 | 29•0 | 29.1 | 30.1 | 31.2 | 59.6 | 28°5 | 25.9 | 755. | 1967 | 1.01 | 15.5 | 15.4 | 15.3 | 16.5 | 17.7 | 18.5 | 18.9 | 19.2 | 19.2 | 19.1 | / 87 | 7.5 | * · · · · · |
| JATA 75 | | SPEED OF | SOUND | KNOTS | 626.1 | 624.7 | | | _ | _ | 618.7 | 617.6 | 616.6 | 615.4 | 614.3 | 613.1 | 611.8 | 610.3 | | | _ | _ | _ | | _ | | | | | 5-466 | | _ | - | 588.2 | | - | 584•5 | 583.4 | 582.3 | 580.9 | - | | 3/6.8 |
| PPER AIR UAT 1870060075 S M R | TABLE 5 | | GM/CUBIC | METER | 574.4 | 565.6 | 557.0 | 548.5 | 539.3 | 530.1 | 521.1 | 512.2 | 503.5 | 495.0 | 486.6 | 478.4 | 4.074 | 462.B | 455.2 | 447.9 | 440.6 | 433.4 | 425.B | 418.3 | 411.0 | 40.3.B | 396.7 | 389.6 | 382.5 | 2,076 | 362.2 | 355.7 | 340.4 | 343.2 | 337.1 | 330.8 | 324.5 | 318.4 | 312.3 | 300.4 | 300 th | 294.9 | 5002 |
| - | - | REL.HUM. | PERCENT | | 25.3 | 25.2 | 25.1 | 25.0 | 24.8 | 24.6 | 5. 4.2 | 24.2 | 24.0 | 24.0 | 24.0 | 24.0 | 24.0 | 24.0 | 24.0 | 24.0 | 24.0 | 24.0 | 24.0 | 24.0 | 24.0 | 24.0 | 0.4 | • | | • | | | | | | | | | | | | | |
| T MSL M DT | | TEMPERATURE | DEWPOINT | CENTIGRADE | -30.4 | -31.4 | -32.5 | -33.5 | 4+46- | -35.2 | -36.0 | -36.8 | -37.6 | -38.4 | -39.2 | -40.1 | -41·0 | -45.0 | -43.0 | 1.44- | -45.1 | -46.1 | -47.0 | -47.8 | -48.7 | -49.5 | 20• | r . (| 200 | | | | | | | | | | | | | | |
| 97.30 FEET MSL 1 130 HRS M DT | | TEMP | AIR | DEGREES | -15.0 | -16.1 | -17.3 | -18.4 | -19.3 | -50.5 | -21.0 | -21.9 | -22.7 | -23.6 | -24.6 | -25.5 | -26•6 | -27.7 | -28.9 | -30.1 | -31+3 | -32.5 | -33.5 | -34.4 | -35.4 | -36.4 | -37.3 | -38.2 | 139.1 | | -42.0 | -43-1 | -44.1 | -45.2 | -46.2 | -47.2 | 0.84- | -48.9 | L+6+- | -50.8 | -51.8 | 152.9 | 153.4 |
| 39 | NO. 75 | PRESSURE | • | MILLIBARS | 425.8 | 417.5 | 409.2 | 401.2 | 395.1 | 385.1 | 377.3 | 369.6 | 362.1 | 354.6 | 347.3 | 240.1 | 335.0 | 326.0 | 319.2 | 312.5 | 305.9 | 299.5 | 293.0 | 286.7 | 280.5 | 274.5 | 268.6 | 262.1 | 0.762 | 9.107 | 240.3 | 234.9 | 229.7 | 224.6 | 519.6 | 214.6 | 209.7 | 204.9 | 200.3 | 195.6 | 191.0 | ၁ (| 1951 |
| STATION ALTITUDE | ASCENSION NO. | GEOMETRIC | | MSL FEET | | 24000.0 | • | • | • | 26000.0 | • | | • | • | 28500.0 | • | 29500.0 | 30000.0 | • | 31000.0 | 31500.0 | 32000.0 | 32500.0 | 33000.0 | 33500.0 | 34000.0 | 34500.0 | 35000.0 | 35500-0 | 36500.0 | 37000.0 | 37500.0 | 38000.0 | 38500.0 | 39000.0 | 39500.0 | 0.0 000+ | • | • | 41500.0 | 45000.0 | 250 | 42000.0 |

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTER-OLATION.

| STATION ALTITUDE 6 JULY 81 ASCENSION NO. | . v. v. | 997.30 FEET MSL 1130 HRS MDT | | UPPER AIR DATA 1670060075 S M R | DATA 75 | | 6E00ET1 52. | 6E0UETIC COOKDINATES 32.48034 LAT DEG |
|--|-----------|---|---------------------|---------------------------------------|----------------------|---------------|----------------|--|
| | | | • | TABLE 5 | | | | 5 |
| GEOMETRIC ALTITUDE | PRESSURE | TEMPERATURE | REL.HUM. PFRCFNI | DENSITY | SPEED OF | WIND DATA | TA | INDEX |
| MSL FEET | MILLIBARS | DEGREES C | | METER | KNOTS | DEGREES (TN) | KNOTS | REFRACTION |
| 43500.0 | 177.8 | -55.0 | | 283.9 | 575.4 | 16.6 | 34.5 | 1.000063 |
| 0.000+4 | 173.6 | -56.1 | | 278.5 | | 15.9 | 33.2 | 1.000062 |
| 44500.0 | 169.5 | -57.1 | | 273.3 | | 15.3 | 32.1 | 1.000061 |
| 45000.0 | 165.5 | 58.5 | | 268.1 | 571.2 | 15.0 | 31.2 | 1.000060 |
| 45500.0 | 167.9 | 159.2 | | 265.1 | | 15.0 | 30.4 | 1.000059 |
| 46500.0 | 154.0 | 2 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - | | 2.80.2 | 568.4 | 10.0 | 29.5 | 1.000058 |
| 47000.0 | 150.4 | 4.62.4 | | 248.6 | | 14.7 | 2.00 | 1.000055 |
| 47500.0 | 146.7 | -63.3 | | 243.6 | | 13.3 | 23.7 | 1.000054 |
| 48000.0 | 143.1 | -64.1 | | 238.6 | | 10.7 | 21.3 | 1.000053 |
| 48200.0 | 139.6 | -65.0 | | 233.7 | 562.1 | 9.1 | 19.2 | 1.000052 |
| 0.00064 | | -65.9 | | 228.9 | 560.9 | 14.3 | 18.2 | 1.000051 |
| 49500.0 | | 9.99- | | 224.1 | 556.6 | 50.0 | 17.4 | 1.000050 |
| 2000000 | | 166.6 | | 218.5 | 526.9 | 28.5 | 16.5 | 1.000049 |
| 50500.0 | | -66.5 | | 213.1 | | 38.2 | 15.9 | 1.000047 |
| 51000.0 | 123.3 | -66.5 | | 207.8 | | 1.7.7 | 15.1 | 1.000046 |
| 52000.0 | | 160.5 | | 202.6 | | y 0 0 0 | 12.0 | 1.000045 |
| 0.0000 | 70/17 | C.00- | | 9.767 | | ייע ר | ٠ ا ا | 1.000044 |
| 5.000.0 | 111.5 | #• QQ | | 192.7 | 560.1 | 7,6.6 | 5. 7 | 1.000043 |
| 350000 | 108.7 | 9.00 | | 184.1 | 0000 0000 0000 | 7.00 | 0 m | 1.000042 |
| 54000.0 | 106.0 | -68•1 | | 180.1 | 550.9 | 9.30 | 2.4 | 1.00041 |
| 54500.0 | | 6.89- | | 170.3 | | 57.1 | 5.6 | 1.000039 |
| 55000.0 | _ | -69-7 | | 172.0 | | 5.00 | 6.7 | 1.000038 |
| 55500.0 | | 7-69- | | 168.0 | | 6.89 | 0.6 | 1.000037 |
| 26000.0 | 9266 | /-89- | | 165.3 | | 101.1 | 12.0 | 1.000036 |
| 56500.0 | | 168.0 | | 158.6 | | 105.9 | 13.7 | 1.000035 |
| 57500.0 | | -67.1 | | 150.0 | 0000 | 100.00 | 0 e | 1.000034 |
| 58000.0 | | -67.6 | | 146.8 | 15.00 to | 1.07.7 | 16.4 | 1.000033 |
| 58500.0 | 84.5 | -68.0 | | 145.5 | | 104.5 | 17.0 | |
| 59000.0 | 82.4 | -67.3 | | 3.39.4 | | 101.9 | 17.7 | |
| ٠ | h•08 | -66.3 | | 1.55.3 | | 100.0 | 18.3 | 1.000030 |
| • | 70. | -65-55 | | 131.5 | | 3 • 8 · · | 19.0 | 1.000029 |
| • | 2 | -65.2 | | 128.1 | 561.8 | 103.1 | 18.1 | 1.000029 |
| 61000.0 | 74.6 | -65.0 | | 124.8 | 562.1 | 108•3 | 17.4 | 1.000028 |
| • | / 4.7/ | 7.49. | | 121.6 | 562.5 | 6.21 | 18.0 | 1.000027 |
| • | 0.17 | * * * * * * * * * * * * * * * * * * * | | ₹ 1. 1. | H + 1947 | 7.51 | 20.5 | 1.000026 |
| 0.00029 | 7 1 | 1.49. | | 11,000 | | | 200 | 1.000026 |
| 0.0000 | • | 0.00 | | 112,3 | t • 995 | 4.634 | 73.5 | 1.000025 |
| | | | | | | | | |

| GeODETIC COORDINATES 32.48034 LAT DEG 106.42307 LON DEG | A INDEX Speed of KNOTS REFRACTION | | #20000 : " 50000 i | ◀ ' | 25.6 1.000023 | ٠- | - | - | | | - | 26.0 1.000019 | ~ | 23.7 1.000018 | | 1100001 | 22.5 1.000016 | 7 - | • | 20.4 1.000015 | - | - | - | 23.0 1.000013 | 26.8 1.000013 | | - | - | _ | 29.6 1.000011 | 30.6 1.000011 | ٠, | 33.0 1.000010 | • | • - | - | 37.2 1.000009 | - - |
|---|---|-----------|--------------------|---|---------------|---------|-------|-------|---------|-------|---------|---------------|----------|-----------------|--------|---------|---------------|---------------|---------|---------------|---------|---------|------|---------------|---------------|---------|---------|---------|---------|---------------|--|-----------|---------------|---------------------------------------|--------|---------|---------------|-----------------|
| 6.0 | WIND DATA DIRECTION Sof DEGREES(IN) KNO | 3 | | | 6°/6 | | | | | | | | | | | 1.011 | | | | | | | | | 92.1 | | | | | | C+COT | | | | | | | |
| UATA 075 | SPEED OF SOUND KNOTS | | 00+00 to | | 7 565.7 | | | | | | | | - | | | 4 5/4.0 | | 376.0 | | | - | 4 580.9 | | | 0 581.8 | | _ | 7 5H3.0 | | | _ | | 284.5 | | | | 1 588.6 | 6+684 0+ |
| UPPER AIR DATA 1870060075 5 M R TABLE 5 | GM/CUBIC METER | , | 4.601 | • | 103.7 | 94.46 | 95.B | 93.3 | 6.06 | 86.5 | 86.2 | 83.9 | 81.7 | 79.5 | . / / | 72.4 | 2.07 | 1 · 1 · 0 · 0 | 67.6 | 65.8 | 64.1 | 62.4 | 6.09 | 59.4 | 58.0 56.5 | 55.53 | 54.0 | 52.7 | 51.4 | 50.5 | 0.64 | J = 1 | 46.4 | 4.11 | | 2.5 | 41.1 | •0 ₇ |
| | REL.HUM. PERCENT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 997.30 FEET MSL 1 30 HRS MDT | TEMPERATURE AIR DEWPOINT DEGREES CENTIGRADE | 6 | 2001 | 1.20 | -62.3 | -61.4 | 6.09- | 4.09- | 0.09- | -59.5 | -59-1 | -58.6 | -58.2 | -57.5 | 2000 | 150.0 | 50.00 Res | 104.0 | -53.0 | -52.3 | -51.6 | -50.8 | 50•6 | -50.3 | 1,03-1 | 7.64- | h.6h- | -49.2 | 0.64- | 7-8-7 | U + 10 + 11 + 12 + 12 + 13 + 13 + 13 + 13 + 13 | 7 • 0 ÷ 1 | 1.84-1 | , , , , , , , , , , , , , , , , , , , | 0°2''- | 6.51- | 8-44- | -43.9 |
| w 15 | PRESSURE MILLIBARS DE | 7 0 97 | | | 62.8 | , φ | | | | 24.3 | | | | N.04 | | | . ~ | | | | | | 38.9 | , | 36.65 | | . 7. | 6. | 4 | m, | | | v r | • | 2 | 9 | 6 | ų. |
| STATION ALTITUDE 6 JULY 81 ASCENSION NO. | GEOMETRIC ALTITUDE MSL FEET 1 | 0 00 31 7 | 0.00004 | | | 65500•0 | 6000 | | 67000.0 | • | 68000.0 | • | 0.00069 | 69500 •0 | 0.0000 | 71000-0 | 71500.0 | 72000.0 | 72500.0 | 73000.0 | 73500.0 | 74000.0 | - | • | 7500.0 | 76500.0 | 77000.0 | 77500.0 | 78000.0 | 78500.0 | 79600 | - | 80000 | | | 82000.0 | • | רייו |

| GrODETIC COOKDINATES 32.48034 LAT UEG 1U6.42307 LON DEG | INUEX | REFRACTION | 1.000009 | 1.000008 | 1.000008 | 1.000008 | 1.000008 | 1.000008 | 1.000008 | 1.000007 | 1.000007 | 1.000007 | 1.000007 | 1.000007 | 1.000007 | 1.000006 | 1.000006 | 1.000006 | 1.000006 | 1.000006 | 1.000006 | 1.000006 |
|--|---------------------------|--------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|--------------|----------|----------|----------|----------|----------|
| 6£00£T1 32. 106. | TA ShEEU | KNOTS | 38.4 | 38.3 | 30.2 | 37.2 | 36.1 | 35.1 | 33.0 | 30.9 | 28.9 | 26.9 | 25.1 | 24.5 | 24.3 | 24.4 | 23.4 | 21.9 | 20.5 | | | |
| | WIND DATA | DEGREESTIN | 105.5 | 107.6 | 109.7 | 112.4 | 115.4 | 118.6 | 116.6 | 114.3 | 111.7 | 108.4 | 104.7 | 101.2 | 98.5 | 95.7 | †•9 6 | 6•86 | 101.7 | | | |
| JATA 75 | SPEED OF SOUND | RNOTS | 590.5 | 590.5 | 590.B | 591.1 | 591.4 | 591.7 | 592.0 | 592.3 | 592.6 | 592.9 | 593.2 | 593.5 | 593.6 | 593.6 | 593.7 | 593.7 | 593.7 | 595.A | 593.A | 593.A |
| UPPER AIN DATA 1870060075 Smr TABLE 5 | DENSITY GM/CUBIC | METEX | 39.1 | 38.2 | 37.3 | 30.4 | 35.6 | 34.8 | 34.0 | 33.2 | 32.4 | 31.7 | 30.9 | 30.2 | 29.5 | 28.9 | 28.3 | 27.6 | 27.0 | 26.4 | 25.H | 25.3 |
| - F | REL.HUM. PERCENT | | | | | | | | | | | | | | | | | | | | | |
| ET MSL M Di | TEMPERATURE R DEWPOINT | DEGREES CENTIGRADE | | | | | | | | | | | | | | | | | | | | |
| 7.30 FEE . 130 HRS | TEMF AIR | DEGREES | -43.6 | -43.4 | -43.2 | -45.9 | -42.7 | -42.5 | -42.2 | -45.0 | -41.8 | -41.5 | -41.3 | -41.1 | -41.0 | -41.0 | 6.04- | 6.04- | 6.04- | 6.04- | 8·0h- | 9.04- |
| STATION ALTITUDE 3997.30 FEET MSL 6 July 81 130 HRS M D ASCENSION NO. 75 | PRESSURE | MILLIBARS | 25.7 | 25.2 | 24.6 | 24.1 | 23.5 | 23.0 | 22.5 | 22.0 | 21.5 | 21.1 | 20.6 | 20.1 | 19.7 | 19.3 | 16.8 | 18.4 | 18.0 | 17.6 | 17.2 | 10.9 |
| STATION ALTIT 6 JULY 81 ASCENSION NO. | GEOMETRIC ALTITUDE | Mar FEE! | 83500.0 | 0.000+A | 84500.0 | 82000.0 | 85500.0 | 86000.0 | 86500.0 | 87000.0 | 87500·0 | 88000.0 | 88500.0 | 0.0006a | 89500.0 | 0.00006 | 90500.0 | 91000.0 | 91500.0 | 92000.0 | 92500.0 | 93000.0 |

| GEODETIC COOKDINATES 32.48034 LAT DEG 106.42307 LON DEG | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|----------------------|-----------|-------------------|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| GEODETIC 32.4 106.4 | AIA | SPEED | KNOTS | 8. | 1.3 | 5.5 | 6.2 | 8.8 | 11.6 | 25.7 | 17.9 | 15.6 | 20.8 | 47.6 | 47.6 | 45.9 | 41.0 | 33,5 | 25.7 | 15.8 | 7.2 | 16.4 | 21.3 | 26.3 | 24.4 | 19.2 | 33.3 | 38.2 | 24.2 |
| | WIND DATA | DIRECTION | DEGREES (TN) | 110.3 | 249.2 | 285.6 | 359.5 | 27.4 | 14.9 | 39.7 | | | | | 29.0 | | | | | | | | | 91.1 | 108.2 | | 103.0 | | |
| evels 75 | HEL. HUM. | PERCENT | | 30• | 37. | 45. | 50. | 56. | 84. | 55. | 26. | 20. | 25. | 24. | 24. | | | | | | | | | | | | | | |
| MANDATORY LEVELS 1870060075 S M R TABLE 6 | TEMPERATURE | DEWPOINT | CENTIGRADE | 9.5 | 7.8 | 9•¢ | 3.3 | 1 | 0• | -10.0 | -22.1 | -27.0 | -33.7 | -38.9 | 0.94- | | | | | | | | | | | | | | |
| ¥ /i | | | DEGREES C | 28.5 | 23.2 | 17.5 | 13.5 | 8.2 | 2.5 | -2.1 | -5.7 | -11.8 | -18.6 | -24.5 | -32.4 | 2.04- | 8.64- | -55.7 | -62.5 | -66.5 | 6-69- | -66.2 | -64•3 | -61.4 | -58.0 | -51.0 | -48.0 | -43.3 | -41.0 |
| MSL. IDr | RESSURE GEOPOTENTIAL | | FEET | 4988 | 6738. | 8567. | 10489. | 12520. | 14669. | 16963. | 19432. | 22111. | 25032. | 28264. | 31894. | 36042. | 40930. | 43758. | 46929• | 50571. | 54985. | 59388. | 62058. | 65173. | 68913. | 73602. | 79787. | 83773. | 88726• |
| E 3997.30 FEET 1 130 HRS M 75 | PRESSURE GE | | MILLIBARS | 850.0 | 800.0 | 150.0 | 200.0 | 650.0 | 0.009 | 550.0 | 200.0 | 450.0 | 0.004 | 350.0 | 300.0 | 250.0 | 200.0 | 175.0 | 150.0 | 125.0 | 100.0 | 80.0 | 20.0 | 0.09 | 20.0 | 0.04 | 30.0 | 25.0 | 20.0 |
| STATION ALTITUDE 3997.30 FEET MSL 6 JULY 81 130 HRS MDT ASCENSION NO. 75 | | | | | | | | | | | | | | | | | | • | | | | | | | | | | | |

** AT LEAST ONE ASSUMED RELATIVE HUMJDITY VALUE WAS USED IN THE INTERPOLATION.

| GEODETIC COORDINATES 32.40043 LAT DEG 106.37033 LON DEG | | |
|--|---|---|
| ATA | REL.HUM. PERCENT | 22.0 52.0 53.0 56.0 56.0 79.0 79.0 87.0 53.0 |
| SIGNIFICANT LEVEL DATA 1870020434 WHITE SANDS | TEMPERATURE AIR DEWPOINT DEGREES CENTIGRADE | 9.11 11.55 11.25 3.77 3.77 1.6.61 1.6.56 1.8.56 1.8.56 1.8.56 1.8.56 1.8.56 1.8.56 1.8.56 |
| SIGNIFIC 18 WHI TABLE 7 | TEMPE AIR DEGREES | 333 333 230 1133 1133 1133 1133 1135 1135 1135 11 |
| MSL | PRESSURE GEOMETRIC ALTITUDE ILLIBARS MSL FEET | 3989.0 4654.2 4983.1 8552.5 10503.3 13020.7 14194.3 14194.3 14582.6 16976.1 17367.2 18603.1 19468.2 22426.7 |
| STATION ALTITUDE 3989.00 FEET MSL 6 JULY 81 1215 HRS MDr ASCENSION NO. 434 | PRESSURE MILLIBARS | 879.2 859.6 850.0 750.0 700.0 611.4 602.6 602.6 550.4 542.2 517.0 7.0 7.0 7.0 7.0 7.0 7.0 7.0 7.0 |

| STATION ALTITUDE 6 JULY 81 ASCENSION NO. 43 | .TITUDE 39. | 3989.00 FEET MSL 1 215 HRS M.DT 34 | ET MSL M-OT | | UPPER AIR UAT 1870020434 WHITE SANUS TABLE 8 | UATA 34 US | | GEODETIC 32.40 106.37 | ETIC COORDINATES 32.40043 LAT DEG 06.37033 LON DEG |
|---|---|--|-------------------|---|---|------------------|--------------|-----------------------------|--|
| GEOMETRIC | PRESSURE | TEM | TEMPERATURE | REL.HUM. | DENSITY | SPEED OF | "INU DATA | TA. | INDEX |
| ALTITUDE | 104.17 | AIR | DEWPOINT | PERCENT | GM/CURIA | | DIRECTION | SPEED | OF |
| MOL FEE! | MILLIBARS | DEGREES | CENTIGRADE | | METEK | KNOIS | DEGREES (TN) | KNOTS | REFRACTION |
| 3989.0 | 879.2 | • | 9•1 | 22.0 | n.566 | 684.2 | .57 | - | 30000 |
| 0.000t | 878.9 | 33.7 | 8.5 | 22.2 | 992.7 | 684.2 | 175.0 | 2.9 | |
| 4200.0 | 864.1 | 30.9 | 11.1 | 29.7 | 984.4 | 681.3 | 175.1 | | |
| 2000.0 | 849.5 | 29.0 | 11.2 | 33.1 | 973.5 | 679.2 | 175.2 | • | 1.000272 |
| 5500.0 | 834.8 | 27.5 | 10.5 | 34.6 | 1.196 | 677.9 | 175.3 | 1.8 | 1.000268 |
| 0.0009 | 820.4 | 26.0 | 8•6 | 36.1 | 950.1 | 675.7 | 174.0 | 1.5 | • |
| 2000.0 | 2000 | 500 | | 37.7 | 938.7 | 673.9 | 172.2 | 1.3 | 1.000259 |
| 7500.0 | 7.07. | 26.7 | ? ! ? | 39.5 | 927.5 | 672.1 | 1/6.9 | 6, | 1.000254 |
| 0.000 | 76.5.2 | 6.12 | C•/ | D . C . | 916 | 670.2 | 196.1 | ۰٠ | 1.000250 |
| 8500.0 | 752.0 | 19.0 | 0 t | 7 a | 0.006 0.006 | # · p q q | 0.45% | ٥ | - |
| 90000 | 738.7 | 17.1 | ָה מַ מַּ | 0 4 5 4 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 | 974.8 | 0000 | 7.462 | ۰ | • |
| 9500.0 | 725.6 | 16.1 | 4.7 | 6.94 | 870.1 | 664.6 | | | 1.0000.1 |
| 100001 | 712.7 | 15.0 | 4.2 | 48.5 | 857.9 | 662.7 | 8.5 | 6 | |
| 10500.0 | 700.1 | 13.9 | 3.7 | 50.0 | 846.0 | | 30.9 | 5.3 | • |
| 11000.0 | 687.4 | 12.6 | • | 51.2 | 834.6 | _ | 38.7 | 4.9 | • |
| 11500.0 | 675.0 | 11.3 | 1.9 | 52.4 | 823.4 | S | 39.8 | 6.7 | • |
| 12000.0 | 662.8 | 0 | • | 53.6 | 812.3 | 656.8 | 32.8 | • | 1.000212 |
| 12500.0 | 650.8 | 8.7 | ~ | 54.8 | 801.4 | 655.3 | 26.1 | 7.5 | 1.000208 |
| 13000.0 | 639.1 | 7.5 | • | 56.0 | 790.7 | Ð | 21.0 | 7.6 | |
| 13500-0 | \$ 1.79 \$ 1.79 | N 0 | • | 61.4 | 779.6 | | 16.3 | - | 1.000202 |
| 0.000.00 | 9.009 |) v | - · | 69.8 19.4 | 768.7 | - | 11.4 | 12.3 | 1.000201 |
| 5000 | 50.45 | 0 M | 7, | 1.00 | 6./6/ | \$ 6 to 1 | 1101 | 13. | 1.000199 |
| 15500.0 | 582.0 | 1.0 | -1.7 | 82.1 | 737.0 | 547.0 | 20.1 | 16.7 | 1.000196 |
| 16000.0 | 571.1 | H) · | -2.7 | 83.7 | 726.9 | 644.5 | 27.8 | 19.0 | 1.000187 |
| 16500.0 | 560.4 | -1.6 | -3.8 | 85.4 | 716.8 | 645.9 | 33.1 | 21.4 | 1.000183 |
| 1,000.0 | 0.000 000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0. | -2.9 | 0.0 | 85.9 | 706.9 | 641.3 | 36.6 | 23.9 | 1.000179 |
| 0.00071 | 1000 | 0 · · · | 5.6- |) · · · · · · · · · · · · · · · · · · · | 696.1 | 640.1 | V-80 | 25.1 | .00017 |
| 18500.0 | 5.00.1 | 0 0 0 | -12.9 | 44.0 | 683.7 | 639.7 | 10° | 20.5 | .00016 |
| 19000 | 500.1 | 3 - 1 | 0.01. | 24.0 | 6.1.0 | 0.400 | 1000 | 200 | • |
| 19500.0 | 7.007 | | -19.2 | 3.0 | 7.000 | 630.0 | | 10.0 | 1.0001 |
| 20000.0 | 489.7 | -6.7 | -20.3 | 33.0 | 639.7 | 0.36.0 | 24.8 | 17.1 | • |
| 20500.0 | 480.3 | -8.0 | -21.4 | 33.0 | 630.4 | 634.7 | 20.5 | 16.3 | 1.000146 |
| 21000.0 | 471.0 | -9.5 | -22.5 | 33.0 | 621.1 | 633.2 | 6+62 | ŝ | • |
| 21500.0 | 461.8 | -10.1 | -23.5 | • | 611.1 | 632.1 | 56.0 | 15.7 | 1.000141 |
| _ | • | -10.9 | +>4 • 4 | 1: | 1.109 | 031.1 | _ | 15.0 | 'n |
| 22500.0 | 6.5.44 1.14 | -11.8 | • | | 591.3 | 630.0 | 46.7 | | 1.000136 |
| 23000.0 | 432•T | -13.1 | -26.6 | 31.2 | 582.5 | 628.4 | 47.0 | 15.9 | 1.000134 |

| STATION ALTITUDE 3989.00 FEET MSL 6 JULY 81 1215 HRS MDT ASCENSION NO. 434 | .TITUDE 39 L NO. 434 | 89.00 FEE 1215 HRS | ET MSL M Dr | | UPPER AIR DATA 1870020434 WHITE SANDS TABLE 8 | DATA 134 105 | | Gr ODE T 1 32. 106. | Grodetic Coordinates 32.40043 Lat Deg 106.37033 Lon Deg |
|--|----------------------------------|----------------------------------|--|----------------------|--|--|---|---------------------------|---|
| GEOMETRIC PRESSURE ALTITUDE MSL FEET MILLIBARS | PRESSURE MILLIBARS | 90 | TEMPERATURE AIR DEWPOINT DEGREES CENTIGRADE | REL.HUM. PERCENT | REL.HUM. DENSITY SPEED OF PERCENT GM/CUBIC SOUND METER KNOIS | SPEEU OF SOUND KNOIS | WIND DATA DIRECTION S.EED DEGREES(IN) KNOTS | TA S.EED KNOTS | INUEX OF REFRACTION |
| 23500.0 24000.0 24500.0 25000.0 | 426.4 417.9 409.6 401.4 | -14.5 -15.8 -17.1 -18.5 | -27.7 31.4 -28.8 31.6 -29.9 31.8 -31.0 32.0 | 31.6 31.6 32.0 | 573.9 565.4 557.1 548.9 | 573.9 626.8 565.4 625.1 557.1 623.5 548.9 621.9 | 46•1 | 16.6 | 1.000131 1.000129 1.000127 1.000125 |

| | | | Œ | MANDATORY LEVELS | EVELS | | |
|----------------------|---------------------|-----------------------|-----------|--------------------|-------------|--------------|----------------------|
| STATION ALTITUDE 398 | JE 3989.00 FEET MSL | ET MSL | | 1870020434 | * | | GEODETIC COORDINATES |
| 6 JULY 81 | 1 45 HRS | . x 4 | | WHITE SANG | SC | | 32,40043 LAT DEG |
| ASCENSION NO. | キロキ | | | • | | | 106.37033 LON DEG |
| | | | 11 | TABLE 9 | | | |
| | PRESSURE | PRESSURE GEOPOTENTIAL | | TEMPERATURE | KEL.HUM. | WIND DATA | AIA |
| | | | AIR | AIR DEWPOINT | PERCENT | DIRECTION | SPEED |
| | MILLIBARS | FEET | DEGREES C | ENTIGRADE | | DEGREES (TN) | KNOTS |
| | 850.0 | | 29.1 | 11.2 | 33. | 175.2 | 2.5 |
| | 0.008 | | 23.7 | 8.7 | 38. | 174.0 | |
| | 750.0 | 8567 | 18.1 | 2.6 | - - - | 234.0 | 9 |
| | 1000 | • | 13.9 | 3.7 | 50. | | |
| | 650.0 | 12526. | 8.7 | • | 55. | | 7.6 |
| | 0.009 | | 3.1 | | 79. | | 14.2 |
| | 550.0 | | -2.9 | 6.4- | 86. | 36.5 | 23.8 |
| | 200.0 | 19440. | -5.4 | -19.1 | 33. | | 19.1 |
| | 450.0 | | -11.2 | -24.7 | 31. | | 6.71 |
| | 0.004 | | -18.7 | -31.2 | , CE | | |

